'It's Important to Know In Time'

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The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★

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OPM Controls Production of All Industries

All Priorities Orders Now Take Precedence Over Unrated Ones

WASHINGTON, D. C.—The Office of Production Management last week took control of essential civilian as well as war-time production of industry. In an amendment to Priorities Regulation No. 1, basic document governing operation of the priorities system, OPM directed that all orders bearing a priority rating, including those with the B ratings accorded to essential civilian products, must be accepted by producers in preference to any unrated order.

Previously, the acceptance of orders bearing a B rating has been optional with manufacturers.

The required acceptance of B-rated orders is a further transitional step in the move toward allocation of scarce materials, since B ratings are one method of designating the relative importance of civilian uses for materials after war requirements have been met, government officials said.

Treatment which must be given to defense orders is clarified by a new provision which assigns a priority rating of A-10 to all defense orders not otherwise rated. This change is intended to eliminate any confusion which might arise as to the handling of those defense orders which were previously unrated, in relation to other orders which had been specifically rated A-10, the lowest rating in the A series.

(Concluded on Page 8, Column 2)

Refrigerator Tax Tops $1,460,000 in Nov.

WASHINGTON, D. C.—Excise tax collections on mechanical refrigeration and air conditioning equipment during November, 1941, amounted to $1,460,569.77, as compared with $302,618.83 in the same month of 1940, when only household mechanical refrigerators were subject to tax, according to statistics compiled by the Collector of Internal Revenue.

TECORD and EARDF Campaigns Get Results; Both Organizations Disband for Duration

Tecord Petitions Speed Action on Repair Parts Order

DETROIT—Just what united action by members of an industry can do in getting just recognition from government officials has been aptly demonstrated in the campaign of petitions and letters to U. S. Congressmen staged by TECORD (Temporary Educational Committee of Refrigeration Distributors) this fall.

When AIR CONDITIONING & REFRIGERATION NEWS pointed out in the late summer and early fall that refrigeration should receive consideration as an essential industry, and that a proper parts and repair order was needed in order for the industry to continue supplying its vital and necessary services, members of the trade met at the offices of the NEWS and formulated a plan for education and action on these vital matters.

Thus TECORD came into being and a drive was inaugurated to get signatures for the following petitions:

"Whereas, food must be preserved until consumed,

"Whereas, there is in operation throughout our country an estimated $5,000,000,000 worth of domestic and commercial refrigeration equipment at retail value and an estimated $400,000,000 worth of air conditioning,

"Whereas, this equipment is our basic means of preserving, transporting, processing, and merchandising the perishable foods of our country,

"Whereas, the air conditioning installations in operation are essential to the habitation of the buildings in

(Concluded on Page 3, Column 1)

375 Firms To Exhibit At Furnishings Show

CHICAGO—About 375 housewares and appliance manufacturers, including most of the major appliance companies, will show their 1942 lines during the International Home Furnishings Market in the Merchandise Mart here Jan. 5 to 17, reports Percy Wilson, managing director of the Mart.

This Is a Bonus Issue for You

This issue of the NEWS is the smallest turned out in many years. (It is being prepared during the holidays, with most of the staff away.) It is also a **bonus** issue.

A calendar peculiarity placed our first 1941 issue on Jan. 1, and our last on Dec. 31. Thus there are 53 issues of the NEWS in 1941 instead of the customary (and stipulated) 52.

You're welcome. A Happy New Year to you and yours!

Plans on Jobber, RSES Meetings Still In Doubt

CHICAGO—Both the National Refrigeration Supply Jobbers Association and the Refrigeration Service Engineers Society are planning to hold their annual meetings here sometime in the near future, although the exact dates of the meetings were still in doubt last week.

At a meeting of R.S.E.S. directors here Saturday, the annual convention was postponed until the time of the All-Industry meeting which will be held sometime after the original date for the exhibition.

The program for the service convention is being held up also. The convention will take three days but one of the daily programs will be given over to All-Industry meeting.

Recent jobber conferences with OPM officials have indicated that several preference rating and limitation orders of vital interest to manufacturers, jobbers, and service men in the refrigeration field will be entered in the near future.

The possibility at the present time is that the jobber meeting will be held at the same time as the R.S.E.S. convention and the All-Industry meeting so that all factors of the industry will be present for the conferences.

Although the original All-Industry Show has been cancelled, it is understood that exhibitor-manufacturers still may hold a conference type of "exhibitors' clinic" in connection with a general industry meeting to discuss OPM regulations.

Stewart-Warner Names Elliff Vice President

CHICAGO—Joseph C. Elliff and George L. Meyer were elected vice presidents of Stewart-Warner Corp. at a meeting of directors of the company Dec. 22.

Mr. Elliff has been with Stewart-Warner since June, 1939, having previously been western advertising manager for "Saturday Evening Post." He has been active in the merchandising and distribution of Stewart-Warner refrigerators and other appliances. As executive vice president, he will continue to serve as assistant general sales manager, in addition to assuming new responsibilities.

Mr. Meyer, a Stewart-Warner employe since the company was founded, has been manager of the Stewart Die Casting Co., a subsidiary, since 1939. In addition to his new duties, he will continue in charge of the die casting plant.

Bogart Dissolves EARDF, Says Ingenuity Must Be Developed

TOLEDO—National Chairman H. G. Bogart, Jr. has formally dissolved the Electrical Appliance Retailers and Distributors Forum. This organization was formed in October to organize the nation's appliance distributing organizations to fight further "luxury" taxes and other restrictions on the products they sell.

"After Pearl Harbor," said Mr. Bogart, "I think all of us should be ready to sacrifice anything and everything, and we should accept whatever decisions are made by our Government no matter how inequitable they may have seemed in the past.

"From now on we have all got a tough time ahead, as I see it, and it will take a lot of ingenuity for people in our type of business to keep going. That ingenuity, however, can and will be exercised."

John White of Grand Rapids and Syd Caswell of Detroit, Michigan co-chairmen, joined Mr. Bogart in his sentiments, as did Frank Elliott of Philadelphia, E. B. Ingraham of New York, and I. W. Danforth, Pittsburgh.

"Perhaps the efforts we did make have not been in vain," said Mr. White. "Certainly they have not been if for no other reason than the fact that a number of distributors have come to know each other a lot better, and this no doubt will be a great help in the days to come."

It was revealed at OPM headquarters that one man and two girls had spent more than three weeks answering EARDF letters. Congressmen from nearly every state have also written letters expressing their belief in the importance of refrigeration to the national welfare.

Priority Order For Emergency Repairs Drafted

OPM, SPAB Approval of Service Order Is Still Required

WASHINGTON, D. C.—Drafted by the refrigeration experts in the OPM, an "emergency service order" for the refrigerating machinery and equipment industry which would give a priority rating to "emergency service" on all types of refrigeration installations now in existence is awaiting the consideration and final approval of OPM and SPAB high officials.

Those who have been given a preview of the draft of this proposed refrigeration repair order have found it written in terms that are familiar to the industry, and designed to furnish the maximum aid available to the industry under the existing circumstances.

The order would define "emergency service" as repair or replacement of any part of a refrigerating system which was in such condition as to be safe or inoperative. It excludes the installation of new or used equipment that might increase the capacity of the system.

An "emergency service agency" is to be defined as a service firm or individual which is authorized to work for a user of refrigeration equipment, or for a manufacturer of such equipment. A "supplier" is to be defined as any source of the materials, equipment, and tools needed for the performance of the "emergency service."

The order proposes to give a preference rating (as yet not indicated) to materials (except chlorinated hydrocarbon refrigerants) parts,

(Concluded on Page 8, Column 3)

OPM Simplifies Extension of Preference Ratings on War Orders Under $500

WASHINGTON, D. C.—In another move to speed up the production of war materials, regulations governing the extension of preference ratings on orders involving less than $500 worth of materials have been simplified by the Division of Priorities of OPM.

Such orders amount to almost 60% of the total number of extensions handled in the field by Army and Navy contracting officers, although they represent only about 2% of the total dollar value covered by all certificates.

Under the previous system, a manufacturer who wanted to extend a preference rating had to go to the appropriate contracting officer and have him fill out and authenticate a PD-3 form in order to extend his rating to a supplier. This system still holds for extensions of ratings in transactions over $500.

Under the new sytsem, however, a manufacturer who wants to extend an Army or Navy preference rating to obtain material valued at less than $500 may attend to the extension himself, without the necessity of having a contracting officer go through the previous routine requirements.

This new streamlining privilege, however, may be used only if the material to be obtained with the rating is to be physically incorporated in the finished product covered by the certificate being extended.

To make such an extension, the manufacturer involved will certify on his purchase order the rating applicable, the name of the issuing

(Concluded on Page 8, Column 2)

Application of Tax Law To Service and Installation Jobs Is Interpreted

WASHINGTON, D. C.—Additional interpretations of the excise tax on commercial refrigeration equipment, with particular reference to repair and installation work, have been issued by the office of D. S. Bliss, deputy collector of internal revenue, in response to a request from AIR CONDITIONING & REFRIGERATION NEWS.

Inquiries concerning the tax's application were made by a commercial refrigeration firm after reading a report of the speech delivered by Hammond E. Chaffetz, Washington attorney, before the fall meeting of Refrigeration Equipment Manufacturers Association, which was published in the Oct. 15 issue of the NEWS. The initial quotation below is from Mr. Chaffetz's talk.

1. "The tax does not apply to any charges made for transportation or delivery, or for insurance, installation, and the like."

Under the above would you say that on a commercial installation where the components are from several different sources we should not pay tax on transportation, installation labor, and on sub-contracts such as wiring, plumbing, carpentry?

Answer: Charges for transportation, delivery, insurance, and installation actually incurred in connection with the delivery of an article to a purchaser pursuant to a bona fide sale, may be excluded in computing the tax, provided it can be shown by adequate records to the satisfaction of the Commissioner that such charges are not a selling expense, or are in no way incident to placing the article in condition packed ready for shipment. Incoming freight, etc., or other costs of manufacturing or producing a taxable article may not be deducted from the tax base.

2. Would you say that repairs on a component are taxable? Including both parts and labor?

Answer: Charges for repairs and labor to refrigerator components are not subject to manufacturers' excise tax.

3. Would a rebuilt exchange compressor body, when exchanged for a worn body on an existing installation, be taxable? Again, would it include both parts and labor?

4. Would a rewound exchange motor on an existing installation be

(Concluded on Page 8, Column 1)

Refrigerator & Washer Manufacturers May Substitute Wood For Metals

CHICAGO — Manufacturers of washing machine tubs may return to wood to replace the metal needed by the government for the manufacture of armaments, believes John W. McClure, secretary-treasurer of the National Hardwood Lumber Association.

Associations and individual manufacturers are constantly inquiring of the hardware group about substitutes for metals on the priorities list, he said. A group of bedding manufacturers is considering the use of wood frame box springs.

BUFFALO—Plans for the introduction of wood cabinets for electric refrigerators to replace the present steel-cabinet models are being made by Heinz & Munschauer, Inc., the sale of whose business to a new group composed of A. F. Epting, R. H. Guyton, and Paul L. Hanson was reported by the NEWS last week.

Mr. Guyton, secretary of the company and formerly chief engineer for Brunswick-Balke-Collender Co., said that experiments are now being made

(Concluded on Page 8, Column 4)

Dealer Hopes That

Selling to the 'Jones Family' In Each Section Will Build Future Market

ROGERS, Ark.—Facing a double-barreled problem—a territory not too familiar with the benefits of refrigeration, and a limited supply of refrigerators due to the national defense program—W. C. Scott of the Rogers Electric Co. here has decided that his best bet is to prepare the market now for that time in the future when normalcy will return.

The scheme worked out by Mr. Scott and his partner, C. H. Watson, is based on the human characteristics of "keeping up with the Joneses." The dealership's territory is divided into sections, and the men concentrate on making one refrigerator sale in each section.

"Most farm families in the Ozarks and similar hill regions," explains Mr. Scott, "have never had refrigeration of any kind. Selling them refrigerators is a problem of education. Although REA lines went through our area last year, not one family in 20 is served by it at present.

"We find that the best way to educate and create a demand for refrigerators in our area is to go into the different communities, concentrate on one prospect, sell him, and let his unit create the refrigeration demand among his neighbors."

This dealership's selling program is further complicated by the fact that, according to Mr. Scott, "Refrigeration got off to a bad start in the Ozark area largely due to lack of knowledge of its application. An area of small farms and low income, several families bought low priced trade-ins from distant city dealers. Many of these failed mechanically after a time and are now 'just sitting' in their owners' kitchens."

By scattering both new and properly reconditioned units throughout the territory now, the firm believes that with time, this "bad start" can be overcome, and when refrigerators again are produced in normal quantities, the market will be ready for them.

12,279 Refrigerators Sold In Dallas

DALLAS, Tex.—Ten months' sales of electric refrigerators in the territory of Dallas Power & Light Co. topped 12,000 units, with October adding 400 to the year's total, according to reports of dealers to the power company.

Among other leading appliances, washer sales passed 4,000 units, and vacuum cleaner sales 6,000 units. Beverage and water coolers and display cases continued their strong position in the commercial field.

Following are comparative figures for October and the first 10 months of the year:

	October	10 Mos.
Refrigerators	450	12,279
Washers	224	4,039
Ranges	4	57
Water Heaters	1	9
Cleaners	424	6,152
Dishwashers	17	46
Ironers	16	254
Room Coolers	5	44
Store Coolers	5	127
Display Cases	27	250
Water, Beverage Coolers	33	444

Moves To Motors

ELLIOTT HARRINGTON

* * *

G-E Names Harrington Sales Manager For Induction Motors

SCHENECTADY, N. Y.—Elliott Harrington, for the past year sales manager of the General Electric air conditioning and commercial refrigeration department at Bloomfield, N. J., has been named manager of sales of the Schenectady induction motor section of the G-E motor division.

Mr. Harrington has been connected with G-E air conditioning and automatic heating activities from their inception about 10 years ago. His early assignments on the development of an automatic oil furnace led directly to the formation of the air conditioning and commercial refrigeration department, in which he served in various engineering and sales capacities.

Entering the General Electric "test" course at Schenectady in 1919, Mr. Harrington until 1926 was engaged in the industrial engineering and industrial control engineering departments. Assigned to investigate the oil burner field for possibilities in the manufacture of electrical control, he reported that the entire burner offered an opportunity to the company. His first project was the development of the automatic oil furnace, on which he worked at first alone and later with others.

In 1931 began the development of other devices, for humidifying, cooling, and circulating air as well as heating it, and in 1932 General Electric established its air conditioning department, with Mr. Harrington as commercial engineer. At Schenectady he and his family lived in a "proving home" through which thousands of visitors were shown continually. Walls were torn out and fitted with air ducts. Oil furnaces, air conditioning units, and indicating devices were installed, and family and visitors made progress through the rooms by dodging thermocouples which dangled from the ceilings.

The department was later moved to Bloomfield, and Mr. Harrington was in charge of all application engineering and cooling equipment sales. With the consolidation, in 1940, of the company's commercial refrigeration activities, he became western sales manager. He held that post until his appointment, early in 1941, as sales manager of the G-E air conditioning and commercial refrigeration department.

San Francisco Dealer Pushes Service Dept. Into the Foreground

SAN FRANCISCO — With the public expecting shortages of appliances and considering having repairs made to their old appliances instead of trying to trade them in, Hale Bros. Mission St. appliance store here is "pushing" its service department into the foreground.

Two brightly colored signs featuring service offers have been placed permanently in the display window of the store. Although located at the rear of the window so that they won't interfere with regular appliance displays, the signs are attractive enough to catch the eye of the passersby.

In addition, the firm is playing up the service department in its newspaper advertising.

One window sign is headed, "Let Hale Service Your Refrigerator." Beneath the heading is a list of servicing operations: check condition of units, clean and check motor and wiring, clean and check motor belts, clean and check switches and operating control, and oil motor unit. Charge is $1.50.

The other sign is devoted to washing machine reparis, and offers to clean and check motor and wiring, lubricate completely, and install new deluxe wringer rolls for $5.50.

Since installation, these signs have brought in a number of passersby who stated that they had not realized the store also operated a service department in connection with sales.

Mentioning its service departments in its advertisements has also picked up leads from persons who have been made "service-minded" by the demands of the national defense program on the nation's resources of materials and production facilities.

Sales of Electric Ranges Top Previous Records

NEW YORK CITY—Sales of electric ranges by manufacturers reporting to National Electrical Manufacturers Association in the first nine months of this year were greater than in any previous full year. Nine-month total this year was 545,074 units, as against 319,651 in 1940, an increase of 70%.

Sales in September by Nema manufacturers totaled 66,206 units, a gain of 106% over the 32,167 units sold in the same month of last year.

184 Refrigerators Sold To Defense Homes

NEW ORLEANS — One hundred and eighty-four 7-cu. ft. refrigerators have been ordered from Westinghouse Electric & Mfg. Co.'s office here at a total cost of $13,470.96 for installation in Houston Cuney Homes, housing project for defense workers here.

There is a total of 546 new refrigerators in the project, 284 of which are Servel Electrolux units operating on locally installed direct gas lines.

Niagara Frontier Group Elects 22 Directors

BUFFALO—More than 400 persons attended the annual meeting and banquet of the Electric Association of the Niagara Frontier in Troop I Post headquarters here recently. Twenty-two directors were elected for one-year terms. They are:

Charles Hahn, Jr., C. J. Roherr, Weldon D. Smith, Richard Wahle, and A. J. Wolfe, representing wiring contractors and dealers.

George Campbell, R. H. Davison, R. D. Glennie, Karr Parker, K. L. Thielscher, and Henry Vidal, representing jobbers and manufacturers.

H. S. Andrews, E. T. Ball, H. J. Morganstern, K. R. Reid, E. F. Strong, and L. A. Woolley, members-at-large.

T. W. Connette, W. S. Schmidt, M. E. Skinner, and C. P. Yoder, representing central stations, transmission and power companies. Officers will be elected in January.

Western Auto Associate Changes Store Name

LEBANON, Tenn.—Name of the Western Auto Associate Store here operated by R. E. Wyatt has been changed to Wyatt's Auto Accessory Store. The complete major appliance department has grown so rapidly that a separate shop had to be laid out for appliance display.

"HAVE CLARAGE MAKE THEM!"

Every year we ship to builders of air conditioning units thousands upon thousands of Clarage Blower Wheels and Assemblies.

This smaller equipment is designed with the same skill characteristic of the larger Clarage apparatus—just as carefully fabricated and tested.

And we have sizes to meet ALL REQUIREMENTS—with slow speed operation insuring SILENT PERFORMANCE.

May we have your next inquiry?

CLARAGE FAN COMPANY
KALAMAZOO, MICHIGAN
Sales Offices in All Principal Cities

MUELLER BRASS CO.

Improved HEAT EXCHANGER

Compact and Efficient For Ice Cream Cabinet Installation

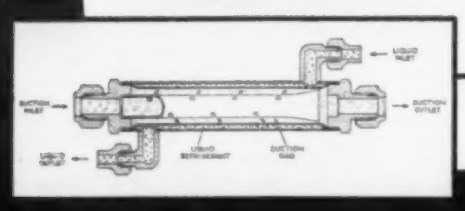
● The Heat Exchanger illustrated below is an addition to our line and intended for use in ice cream cabinet work and in similar installations where a small, compact, yet very efficient heat exchanger is required. Note that overall length is only 8¼".

It is designed to provide maximum heat exchanging capacity where available space is at a premium.

Special combinations of inlet and outlet fittings can be furnished so that this compact unit can be adapted to your particular requirements.

Catalog No.	Suction Line	Liquid Line	Overall Length	Heat Transfer Area
A-13730	½" Flare	¼" Flare	8¼"	18 Sq. In.

Flare Nuts and Seals are furnished with Exchanger, thus keeping units dry and clean.



MUELLER BRASS CO.
PORT HURON, MICH.

★ ★ ★ ★ ★ ★ ★ ★ ★

MILLS MIGHTY REFRIGERATION

Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★ ★ ★ ★ ★ ★ ★ ★ ★

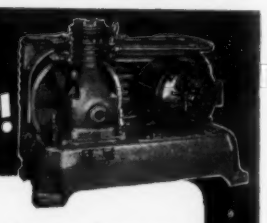
FROM ¼ to 25 TONS OF REFRIGERATION

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

BRUNNER

FOR YEARS THE SYMBOL OF QUALITY

EASY TO SELL!



More than 20 years of high reputability...in every kind of refrigeration service... has established the name "Lipman" as a BUY word that breaks down sales resistance. Make this reputation your sales asset . . . for greater profit and better customer satisfaction.

Lipman

GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC 1 Beloit Wisconsin

VICTORY

FOOD WILL WIN THE WAR!

"Back up our War Program—Prevent Food Waste. Make more and better foods available for our armed forces."

Refrigeration is the ideal method of preserving foods.

We invite and welcome the opportunity to cooperate in every way for a satisfactory and economical solution of your refrigeration problems, whether in plant or transportation. Users know Dole Plates give 100% satisfaction.

Sign your name to this ad, clip and mail to us and our representative will call promptly.

DOLE VACUUM COLD PLATES for all PERISHABLES

DOLE REFRIGERATING CO.
5910 N. Pulaski Road - Chicago, Ill.
New York Branch - 601 W. 26th St., New York City.

Petition Campaign of Jobbers Helps Speed Recognition of Refrigeration

(Concluded from Page 1, Column 2)

which they are at present installed, and

"Whereas, the cost of the actual steel, brass, copper, zinc, nickel, rubber, and other restricted metals for the maintenance of all of the domestic and commercial refrigeration and air conditioning equipment does not cost more than an estimated $1.00 per year per thousand dollars worth of equipment to be maintained,

"Be it resolved, that the undersigned respectfully petition the Office of Production Management that the refrigeration industry be classified as vital to the defense of our country and be given an A-3 rating so that this equipment may be maintained and so that adequate stocks of parts may be secured for repair.

"Whereas, food for the American public must be preserved in the various steps of production and distribution until it is consumed, and

"Whereas, the refrigeration industry is engaged in the business of installing and maintaining refrigeration systems in various food storages located in the food distribution system, and

"Whereas, it is a necessity corollary to this business that adequate stocks of supplies and equipment are necessary;

"Now, therefore, be it resolved, that the undersigned respectfully petition the Office of Production Management that the refrigeration industry be given the necessary priority rating for the procurement of required materials for the following purposes:

"Replacement of obsolete equipment.

"Expansion of existing systems to take care of increased food consumption.

"Systems for new food establishments required by the relocation of population due to defense."

100,000 SIGNATURES

Petitions from all parts of the country bearing an estimated 100,000 or more signatures reached congressmen and authorities in Washington. Many members of the trade also wrote letters to their representatives explaining the situation in the refrigeration industry.

Further evidence of the effect of the campaign is a letter written by Mr. Dinegar to J. M. Oberc, refrigeration parts and supplies wholesaler who took a leading part in assembling petitions. Said this letter:

Office of Production Management
Social Security Bldg.
Washington, D. C.
Dec. 4, 1941

Dear Mr. Oberc:

Reference is made to your letter dated Nov. 22 to the Honorable George O'Brien, member of Congress, transmitting petitions pertaining to the Refrigeration Industry, which has been forwarded to this office. This will also acknowledge receipt of your letters dated Nov. 25 to H. A. Dinegar, Reavis Cox, and Joseph Weiner.

The Refrigeration Unit of this Branch is preparing a comprehensive program for the Refrigeration Industry which will cover fully the manufacture of new equipment as well as the production of parts and supplies necessary for the maintenance of existing facilities and new installations. The first part of this program has been issued on Limitation Order L-5 and the second part has been issued on Limitation Order L-7.

The third part of this program will be announced in the near future and will provide for the manufacture and distribution of parts and material necessary for the maintenance of refrigerating equipment. This part of the program is designed primarily to aid retail establishments that handle food and dairy products and other essentialities.

The complete program will provide for the manufacture of new equipment needed to replace obsolete installations as well as equipment to be used for necessary expansion of existing facilities. You may be assured that in the preparation of this program, due consideration will be given the necessity of providing for adequate refrigeration.

A copy of this letter has been forwarded to Congressman O'Brien.

JESSE L. MAURY, Chief,
Electrical Appliances & Consumers' Durable Goods Branch, Division of Civilian Supply
H. A. DINEGAR, Chief,
Refrigeration and Domestic Cooking Appliance Section

CONGRESSIONAL SPEECH

Indicative of the way congressmen reacted to the avalanche of petitions was the speech in the House of Representatives made on behalf of the refrigeration industry by Carl Hinshaw, member from California.

Said Mr. Hinshaw, as reported in the Dec. 3 issue of the "Congressional Record," "Mr. Speaker, I am today in receipt of a petition signed by 1,769 residents of my congressional district, representative of the professions and trades, and, in fact, all walks of life, including doctors, bakers, housewives, meat cutters, welders, and so forth. This petition is addressed to the Office of Production Management and reads as follows:"

(Mr. Hinshaw then read the petition in the first part of this article.)

"Mr. Speaker, you will note that this petition requests an A-3 priority rating for the purpose of replacement of obsolete equipment, expansion of existing systems to take care of increased food consumption, and the installation of systems for new food establishments required by the relocation of population due to defense.

"Mr. Speaker, my district is one of those in which a tremendous expansion has recently occurred for defense purposes. Accurate figures are not available as to the increase of population in my district due to defense industries, but as the number of workers has increased by nearly 50,000, it is estimated that somewhere in the neighborhood of 100,000 new residents have taken up living quarters as close to the Lockheed and Vega plants as conveniently possible.

"To shut down the supply of refrigeration equipment in that area for the purposes above mentioned, or to fail to supply the equipment for those purposes, does not make sense, in my way of thinking. In the first place, such action is not conducive to the health of those workers and their families; and, in the second place, lack of such refrigeration equipment and supplies will cause spoilage of food and hence directly increase the cost of food both for the proprietors of the new food establishments and the consumers.

"Mr. Speaker, it seems to me that the Office of Production Management, in its enthusiasm for the job of turning out weapons, has lost sight in many instances, including this one, of some of the most important aspects of national defense, and I hope that the Office of Production Management will reconsider its orders."

Congressman Hinshaw's talk represents only one of the many results coming from the nation-wide circulation of petitions. Members of Tecord have reported that their representatives in Congress, and that includes a considerable number, were impressed by the petitions and responded favorably to the many letters sent them on the subject of obtaining a better priority rating for the refrigeration industry.

Homes Started By Oct. 9 May Be Finished

WASHINGTON, D. C.—Builders of privately financed homes, apartment buildings, and hotels for which foundations were in place Oct. 9 will be granted priority assistance to complete construction under terms of an OPM order issued last week.

In October the OPM said that it would assure priority aid only to residential construction costing less than $6,000 a unit or less, in an effort to spread construction to as many defense areas as possible.

They hold pressures up to 300 lb. gage—whether handling ammonia, Freon-12, methyl chloride, CO_2 or natural gas, at normal or low temperatures. Only in Frick valves do you get the patented high-angle seat, alloy-faced button, and easy repacking which have given them the preference for generations. . . . Full range of sizes, ¼" to 14". Screwed valves up to 2". Stocked by Frick Distributors in principal cities everywhere . . . Ask for Catalog K . . . Your copy is waiting. Some good territories still open for distributors.

FRICK CO. Waynesboro, Pa.

for Greater Efficiency
and LOWER COSTS!

Specify STANGARD COLD PLATES

TODAY, refrigeration assumes an important role in protecting the health of the nation. Food manufacturers, processors, and distributors of perishable commodities are called upon to exercise every effort to insure that this country's requirements reach the consumers in perfect condition. We know, and you know, that many materials are being demanded for defense purposes . . . but *proper food and proper refrigeration* must go on!

WE, at STANGARD stand ready to serve your requirements! STANGARD Cold Plates are the result of years technical and engineering experience, backed by years of satisfaction in the field of industry. Ask the man who has used them! Whether you require cold plates for trucks, lockers, coolers, counters or cabinet conversions . . . there is a STANGARD plate to meet your needs . . . ready for *Prompt Delivery!* Get the Stangard Story TODAY!

STANGARD-DICKERSON CORP.
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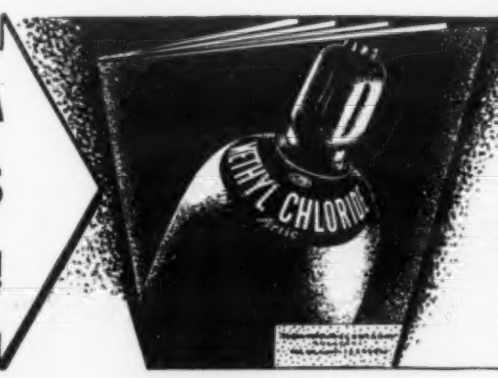

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F. M. COCKRELL, *Founder*

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Refrigeration Will Help Win the War

Lord Gordon Explains British Export Situation

NO EDITORIAL appearing in the NEWS all year has elicited anything like the response which followed publication of the piece, "This Is a War for Foreign Trade" last August.

This editorial took the position that underneath all the oratory and the nationalism and the mutual distaste for differing institutions and folkways lay the clear fact that Germany, Italy, and Japan were out to seize control of world trade by military means, and that Great Britain was blocking them by:

(1) Fighting her enemies

(2) Maintaining her foreign trade

Implied in this editorial was the fact that America, allying herself with Britain in this titanic fight, was *neglecting* her vital foreign trade and, in fact, handing it over to Britain in many localities.

EXPORT PEOPLE PRESENT CORROBORATING EVIDENCE

As an international newspaper, AIR CONDITIONING & REFRIGERATION NEWS is closely in touch with export-import people everywhere, and their response to this editorial was overwhelming. These letters cited chapter and verse in proof of the widely held belief that the British were exporting articles and materials which were denied to American manufacturers by the priorities system.

One Venezuelan subscriber came all the way to Detroit to attend a Tecord meeting (for which he arrived a day late) with photographic evidence that copper wire marked "made in U.S.A." had been shipped to him from England since the passage of the Lend-Lease Act.

Such disclosures, aided and abetted by bulging rumors, infuriated a great many American manufacturers and exporting agents. However, all fall we have steadfastly resisted pressure to "expose" this situation in some detail.

It was our constant reiteration that "the British are the smartest people on Earth," and that instead of berating them for using their brains, we should begin to think things out a little better ourselves.

And now comes a letter from Lord Dudley Gordon, managing director of J. & E. Hall, Ltd., biggest refrigeration manufacturing firm outside the United States, and one of the biggest in the world.

LORD GORDON IS IN POSITION TO KNOW

As President of the Federation of British Industries and Chairman of the Refrigerating Machinery Export Group, Lord Gordon occupies a position somewhat analogous to that of our own William Knudsen. What he tells us about the British export situation is undoubtedly the final word.

The editor can testify from personal experience, also, that Lord Gordon is as honest and straightforward as Bill Knudsen, and as well-informed on industry. In common parlance, if Gordon says it, it's so.

We commend his letter (which follows) to the attention of every subscriber. It is without doubt a complete and satisfactory explanation of a subject which had been bothering American business men more than was apparent on the surface. So far as we are concerned, it closes the books on this whole unhappy business.

TWO SINGAPORE SUBSCRIBERS HAVE OPPOSITE VIEWS

Also appended are two letters from subscribers in Singapore, carrying totally opposite points of view on that same editorial. They are presented on request of the senders, but for the records primarily—not to reopen the argument.

At the moment this is being written, Prime Minister Churchill is preparing to address a joint session of the Congress of the United States. History is being made so fast and so thrillingly (aided and abetted by two of the greatest showmen and masters of the dramatic that the world has ever seen) that what we say now will likely go unnoticed.

Nevertheless we say it.

AMERICA AND BRITAIN MUST UNITE TO SAVE WORLD

Political and military union of the United States and Great Britain will undoubtedly win the war. The brains of the English plus the might of the Americans is too formidable a combination for any other group of nations in the world. But *after* Victory we shall need a union of American and British *business* to save the world.

We should begin immediately to court our former British competitors, and establish lines of communication. To rebuild the world, American business and British business must work together, pool resources, even as now our military and naval establishments are doing.

Let's start thinking about that phase of the international situation *now*. After the war will be too late.

LETTERS

'ENGLAND IS FIGHTING FOR ITS EXISTENCE'

J. & E. Hall, Ltd.
Dartford Ironworks
Kent, England

Dear Mr. Taubeneck:

I hope you may remember meeting me during the International Congress of Refrigeration at The Hague, when we had some interesting talks together.

I have read with great interest the leading article in AIR CONDITIONING & REFRIGERATION NEWS, Aug. 27. In this article you express the well-understood fear of American exporters that the operation of the Lend-Lease Act will prejudice their prospects in the export market and favour their British competitors. I am especially interested to read what you have written because the same fears are being expressed by exporters in Great Britain that our export trade is being lost and will inevitably fall into the hands of our American competitors.

This question is constantly before me in its broadest aspect in my position as President of the Federation of British Industries and in its narrower aspect as Chairman of the Refrigerating Machinery Export Group.

Before the Lend-Lease Act was passed the only way in which this country could pay its way was to increase exports. To achieve this end the Government instituted an Export Drive carried out by means of Export Groups which were formed for each individual industry. This Export Drive met with considerable success.

The passing of the Lend-Lease Act entirely altered the situation and we ceased to be faced with what had become the impossible task of paying for the war by our exports, but orders had been accepted which had to be fulfilled. Deliveries of the goods ordered, manufactured from raw materials produced here or purchased and paid for from overseas, were still being made long after the passage of the Lend-Lease Act, and at the same time supplies purchased in America continued to be delivered here long after the passage of the Lend-Lease Act. Advertisements for which contracts had been placed also continued to run long after the passage of the Act and it is these advertisements to which your article draws attention.

In the interval very severe control of exports had been established here and refrigerating machinery was one of the products the export of which was prohibited without a special licence. Such a licence is only granted if it can be shown that the machinery is required as part of the war effort in the country to which it is to be exported.

Some weeks before your article was published exporters making use of the materials referred to in your article received instructions from our Board of Trade that it would be advisable to suspend manufacture of contracts in hand, particularly for South American countries, and that enquiries for new machinery should not be answered until full investigation had been made. At the same time we were told that advertisements which continued to run under contract should be so altered as to make it clear that delivery of the articles advertised could not be recommenced until after the war.

Where your article goes wrong is in saying "The British are fighting the war for foreign trade." Foreign trade is only a tiny part of what we are fighting for—we are fighting for our existence, to avoid domination by a power which will change our whole way of life and substitute the power of evil for everything which now makes life worth living. We are indeed fighting to avoid the fate of Poland. When I say we are fighting for our existence and our way of living I am including America. We are both of us in this war in our different ways because we have to be, and we have got to see it through together. If American and British industrialists begin to fear that they may lose business to each other they are playing straight into the hands of the enemy. We have got to make up our minds that the only competition between us shall be competition in sacrifice, and that when it is all over we have got to sit down together to decide how we together can clear up the mess.

DUDLEY GORDON

BRITAIN CAN'T SUPPLY MATERIALS NEEDED

Sime, Darby & Co., Ltd.
Singapore, S. S.

Editor:

I refer to your editorial in the Aug. 27 issue of your publication, as I feel that the sentiments expressed are not in accordance with the facts and are inclined to give an entirely wrong impression of the position.

Malaya has always been a substantial market for all types of refrigeration machinery and, in recent years, air conditioning equipment, the bulk of which has been imported from America. The firm with which I am employed is one of the largest importers of engineering materials from both England and America in normal times and we handle the American agencies of the York Ice Machinery Corp. and Leonard Refrigerator Co. in Malaya.

Although it may appear on the face of it that British manufacturers are able to take advantage of the Lease & Lend Enactment to maintain their exports, in actual fact I consider this is far from the real position. It may be a fact that firms in the United Kingdom continue to advertise and solicit export orders but I think this should be put under the category of wishful or propaganda advertising as, from our very extensive experience, we find the greatest difficulty in obtaining engineering and refrigeration supplies from England. In fact it is almost impossible as, even if British manufacturers are in a position to export, the local Government will not authorise permits to import the goods unless they are fully convinced that the materials are required for the essential war effort of this country. This, as you will appreciate, excludes practically all private and commercial applications and it is only with the greatest difficulty that permits for any engineering lines are secured under these circumstances. This does not only apply to American lines but to English products in exactly the same way. In fact, I should say, if anything, the Authorities are more lenient in respect to American imports, as every effort is being made to conserve shipping space from England for absolutely essential merchandise.

Another point is that a great deal of equipment, including refrigeration machinery, is now being exported from U.S.A. to British Colonies under the Lease & Lend and I know of one case recently where the order for a large Military refrigeration installation of approximately 200 tons capacity was placed with a firm in England and, owing to their inability to supply, was subsequently placed with an American firm under the Lease & Lend Act. This instance, I have no doubt, has recently been multiplied hundreds of times and it does mean that American equipment is being introduced in channels where under normal conditions there would have been very little opportunity of the introduction being made. It will be obvious that the sale of equipment to new clients constitutes "the thin edge of the wedge" and should enable American firms with initiative to share to a greater extent in these markets after the war.

As a matter of interest to you, I quote below the import figures indicating increased business being done by American firms in this territory mainly as a result of war-time conditions:

1940—(Jan. to July inclusive)
U. S. Dollars ..... 8.8 million
1941—U. S. Dollars ..... 25.8 million

Our experience in this territory is, I have no doubt, the same as that of importers in other British Colonies and, consequently, I feel that the fears you have expressed are unfounded. While sympathising with your desire to see that the interests of American manufacturers are not adversely effected through the operations of the Lease & Lend Act, I feel confident that the post-war era will see closer collaboration between American and British Governments in the development of the markets of the world.

G. W. PIERCY

SINGAPORE DISTRIBUTOR AGREES

c/o Brinkmann & Co.
Kelvinator Distributor
Singapore

Editor:

I wish to offer my congratulations on your splendid editorial in the NEWS of Aug. 27, 1941, entitled "This is a war for foreign trade."

Your editorial expresses the feelings of the majority of firms and individuals engaged in selling American goods in foreign territories and I am rather surprised that the REFRIGERATION NEWS has passed the local censor. A letter written by me to my principals, the Kelvinator Corp. a few months ago, expressing the same ideas was promptly returned to me by our censor with a polite warning that I was committing an offence against the Defense Regulations by writing this kind of a letter.

I am not in a position therefore to do anymore except to offer my congratulations on your article at this time, but I can offer you very little encouragement regarding the results.

As I am not able to write to you regarding the restrictions and difficulties regarding American Imports without getting into trouble, I suggest that you take a flying trip to this part of the world in order to obtain a clear picture of the situation and publish a detailed report, sustained by facts as furnished by the Importers of American goods in this part of the world.

In the meantime, I wish you every possible success in your campaign against restrictions on American Exports.

JOHN ZYLSTRA,
Manager

X-Rays SPEED DEFENSE

● Science News Letter, in the article reproduced below, recently told how the new G-E million-volt X-ray machines are speeding up defense work. By using "Freon-12" refrigerant instead of oil as an insulator, the weight of million-volt machines was cut to one-third. In the industrial plant this means portability—bringing to the job at hand power that saves precious hours.

Kinetic Chemicals cooperated with General Electric's Drs. Coolidge and Charlton in the search for an insulator to take the place of oil. Many organic compounds containing fluorine were synthesized, and these were tested in the G-E research laboratory.

Of all the chemicals available, it was found that "Freon-12" was most satisfactory. This research proved that "Freon" refrigerants are electrically stable. Their chemical stability has long been established. Thus, the general nature of these remarkable refrigerants can be summed up:

"Freon" refrigerants are electrically and chemically stable and have been rated as safe refrigerants by the Underwriters' Laboratories.

Kinetic Chemicals, Inc., Tenth & Market Streets, Wilmington, Del.

From Cancer Hospitals, Million-Volt Compact Machines Go to Factories Where They "Look" Through 5-Inch Steel

By JAMES STOKLEY

See Front Cover

X-RAYS of 1,000,000 volts are helping America's defense.

Great industrial plants, building huge machinery, have installed equipment to produce these penetrating rays. Steel castings five and six inches thick can be examined as if they were made of glass. Holes inside the castings, and other defects which might mean the failure of a vital part in a warship, a tank or airplane, are found and remedied before they can do any harm.

Only a few years ago 1,000,000-volt X-rays were not in existence. Then elaborate equipment was developed to produce them, and installed in a few hospitals for cancer treatment. But the rugged surroundings of a foundry are quite a different matter from the hospital laboratory. X-rays of lower power had already shown their industrial value. Thick metal parts, however, required X-ray exposures of many hours, far too long to permit a routine examination of the product of a foundry working in high gear.

A giant X-ray outfit, with its 1,000,000 volts, does the work of $90,000,000 worth of radium, and costs only $40,000.

The 1,000,000-volt unit was made smaller and simpler. It weighs 1500 pounds, about a third that of its immediate predecessor. This may not seem very portable, but it is nothing in a plant equipped with cranes for hauling 40-ton castings around. The 1,000,000-volt outfit is just as portable, in relation to the material it works on, as the little X-ray equipment in your dentist's office, with which he detects cavities in your teeth.

Two Units for Navy

Two of the new units are going to the U. S. Navy, for the yards at Philadelphia and at Norfolk. The Ford Motor Co., at Dearborn, Mich., Babcock and Wilcox, at Barberton, Ohio, Combustion Engineering Corporation, at Chattanooga, Tenn., American Steel Foundries, General Electric, at Schenectady, N. Y., have installed them, all for inspection of work in the defense program. Another will soon be in place at the plant of the Campbell, Wyant and Cannon Foundry Co., at Muskegon, Mich., to inspect armament and motor castings which it will build for defense. And still other units are planned.

These 1,000,000-volt X-rays represent the latest stage in a series of researches extending back nearly half a century—back to the time that Prof. Wilhelm Konrad Roentgen discovered X-rays in 1895. His discovery came in the course of a research program dealing with electrical discharges in glass tubes from which most of the air had been exhausted.

Caused When Electrons Stop

X-rays, it turned out, are caused when electrons are suddenly stopped by a solid substance. They are like light waves, but many times shorter in length. In early tubes the electrons were torn out of the cold metal surface of one of the electrodes inside—the cathode. The X-rays were very erratic in behavior, because of the difficulty in controlling accurately the minute amounts of remaining gas. Then, in 1913, Dr. William D. Coolidge, at the General Electric Research Laboratory, invented the tube now almost universally used. Gas is almost completely removed. Electrons are supplied, not from a cold cathode, but from a small glowing filament, like that of an electric lamp. High voltage is applied as in the old tube, the electrons are pulled along, and thrown with great speed against a target of metal, usually tungsten, from which the X-rays radiate.

To get more and more penetrating X-rays, voltages were increased, but there proved to be a limit. If the voltage gets too high—up to several hundred thousand or more, much above that needed for ordinary medical X-rays—"field currents" appear in the tube. These are produced by electrons torn out of cold metal. They make the tube erratic, may even cause its destruction.

About a decade ago, Dr. Coolidge found that these field currents could be eliminated if the high voltage was applied in steps. Tubes were built in several sections, perhaps a hundred thousand volts being put in each one. If there are five sections, with this voltage, after the electrons have passed all the way through, they will have as much energy as if 500,000 volts had been applied at once

Using this principle, about five years ago, Dr. Coolidge and Dr. Ernest E. Charlton developed an outfit using 800,000 volts. It was made for a hospital, to give high-power X-rays for cancer treatment. The tube was 14 feet long and a foot in diameter. With its bulky high voltage generator, a special building had to be erected to house it. Certainly this was no unit for knocking around a factory.

Again research, under the direction of Dr. Charlton, head of the X-ray division of the General Electric Research Laboratory, solved the problem of simplifying the outfit.

The other day Dr. Coolidge, who is now vice-president in charge of research of the General Electric Company, paid tribute to him and his associates.

"The research work involved," said Dr. Coolidge, "occupied the full time of an average of six men for a period of four years, and this, starting of course not from scratch, but with full knowledge of the X-ray generating equipment of the prior art."

Two Developments Responsible

Two developments were mainly responsible for the new unit. Enclosed X-ray equipment had previously used oil in the casing to insulate the parts from the high voltages. Now it was found that Freon gas, developed for use in electric refrigerators and known chemically as dichlordifluormethane, could be pumped in under pressure and was more effective.

Also, a new type of transformer was designed by W. F. Westendorp. This is called the resonance transformer; it eliminates the iron core that normally forms the center of the coils of wire. With the core gone, the multi-section X-ray tube itself, 30 inches long and 3½ inches in diameter, was placed in this central position, an advantageous one making for compactness and shortening the electrical connections.

A metal extension of the tube projects two feet from the cylindrical tank which holds the entire equipment, and from its end emanate the X-rays. Some shoot straight ahead, as from a gun, others are sprayed to the side. Ordinarily the direct rays are used, but sometimes the side ones are convenient. The snout can be placed at the center of a boiler and radiographs, as the X-ray pictures are called, taken with a single exposure on a series of films all around the circumference.

The 1,000,000-volt outfit will photograph through five inches of steel in 2 minutes. A tube operating on 400,000 volts, the next size smaller, requires three and a half hours for the same job. Even then, the lower power picture does not show nearly as much detail in the thicker sections. In this way the new apparatus speeds inspection of parts for vital defense machinery, to be used on land, at sea, and in the air.

When a steel casting is found to have a defect, such as an inclusion of slag, the radiograph shows its position; the casting is sent back to the foundry and the defect is chipped out. Then new metal is welded in and the part is again X-rayed. If satisfactory, the construction of the machine is completed.

Even on smaller parts, high-voltage is a help, as the tube can back way from the job and spray a large area with the rays. Don M. McCutcheon, in charge of the X-ray laboratory at the Ford Motor Company, found, with a heavy part designed for a large bombing plane, that at least six exposures were needed for each casting with 400,000 volts, while the 1,000,000-volt machine completely X-rayed six entire castings at once.

DEFECTS REVEALED

A million volt X-ray picture through several inches of steel looks like a fogged film but the white spray is due to defects in the steel.

Million-volt X-rays were not developed because of the urgent defense activities, but their application has been speeded. A present-day parallel is seen in the way in which the last war made popular the general use of medical X-rays. Still somewhat of a novelty in 1914, doctors called to military service had to use them. They learned their advantages, and continued to use them in private practice after the war.

Now that many industries are being forced to use X-rays by the requirements of defense, they, too, will learn their value, and will keep on using them after the wartime rush is over.

Science News Letter, November 22, 1941

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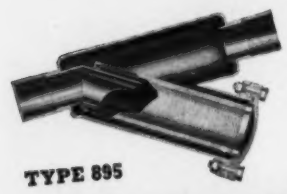

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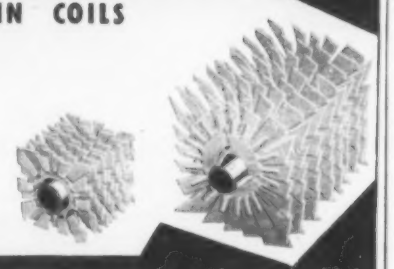

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Proper Pulley Alignment, Lubrication Important For Good Motor Operation

Installation of Motors (Cont.)

By R. A. Fuller,
Industrial Engineering Dept.,
General Electric Co.

Pulley Alignment

Many household refrigerator motors have resilient mountings and automatic belt tightener bases which regulate belt tension in proportion to the load. Under loaded conditions there may be some cocking of the motor shaft due to the increased belt tension affecting the resilient mounting. Such motors should be mounted so that proper pulley alignment is obtained under normal operating belt tension.

The distance between the motor and the compressor should be adjusted so that the motor will have appreciable movement to allow for future stretching of the belt. The operation of the belt tightener base should be observed on starting, stopping and running to forestall any trouble with belts or with noise.

Pulley alignment is largely dependent on the skill and judgment of the service man. A straight edge, held against the flat side of the motor pulley or compressor flywheel, is very helpful in checking for good alignment. When a large quantity of identical units are serviced regularly, special pulley aligning gauges may be useful. This is especially true for household refrigerators, water coolers, ice cream cabinets, beverage coolers, and similar package units in which the checking of the belt alignment is somewhat difficult.

A gauge of this type is shown in Fig. 54. It is formed to fit perfectly in the motor pulley groove with the long end extending straight and true from the motor pulley. For checking alignment the shaped end is placed in the motor pulley groove and held there firmly with the compressor end of the gauge free above the compressor flywheel as shown dotted in Fig. 54. The motor pulley and gauge are then turned so that the gauge swings down into the groove in the compressor flywheel.

For good alignment the long end of the gauge strikes both sides of the flywheel groove at the same time. Figs. 54A and B show possible cross sections of the section fitting the motor pulley. Fig. 54C shows another possible form for use where two different sizes of motor pulley grooves may be frequently encountered.

Fig. 54 - Aligning Pulleys

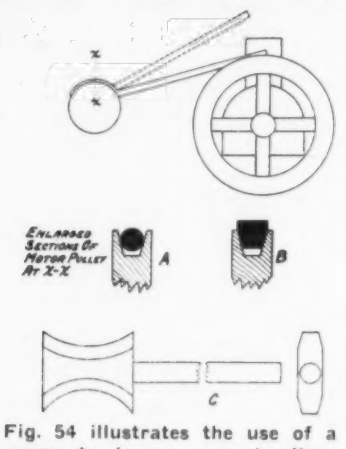

Fig. 54 illustrates the use of a gauge to insure correct alignment of the motor and the compressor pulleys.

Belt Tension

The belt tension should be slightly more than just enough to avoid belt slip on starting. Excessive belt tension puts abnormal load on the motor bearings and may cause bearing failure. New belts will generally be put on tighter to compensate for the belt stretch obtained in the first few days of operation.

A good check of belt tension is to put approximately 10 pounds pressure on the top of the belt midway between the pulleys. With this pressure the belt should be deflected approximately ½ inch for short center drives and ¾ inch for longer belts.

Maintenance

The purpose of maintenance work is to insure continuous satisfactory operation of the equipment. It is therefore important, in such work, that all possible causes of future trouble be found and corrected. The inspection of the motor should be made with particular attention to minor weaknesses which may be indications of future trouble. A careful study of the chapter on motor troubles and their correction will be helpful.

Lubrication

The simplest, and most important, part of motor maintenance is lubrication. The type of oil has been covered in preceding articles. Check the oil level, on motors equipped with an oil filler gauge on the side of the bearing housing, with the motor stopped. The oil filler gauge should be approximately three-quarters full.

Is the oil dirty? If so, drain it off by removing the drain plug usually located in the bottom or side of the bearing housing. Then flush the bearing with clean oil until the outcoming oil is clean.

In fractional horsepower compressor motors there may be no means of checking the oil level as all the oil may be held in the waste. In such cases a good general rule for normal motor service is to add 30 to 70 drops of oil at the end of the first year and re-oil at the end of each subsequent 1,000 hours of motor operation.

Most fractional horsepower compressor motors built today require lubrication about once a year. Small fan and agitator motors will often require more frequent lubrication with three-month intervals between oilings as a fair general guide. Motors rated 1 hp. and larger will require lubrication about every six months.

In all cases it will be desirable to check the motor lubrication more frequently when this is conveniently possible, especially during the first few weeks of operation.

Ball-bearing motors are used occasionally. Under normal conditions these will require lubrication once a year although severe operating conditions may require more frequent attention. Only a high grade of grease should be used having the following general characteristics:

a. Consistency a little stiffer than that of vaseline which is maintained with minimum change under all operating temperatures.

b. Melting point preferably above 275° F.

c. Freedom from separation of oil and soap under operating or storage conditions.

d. Freedom from acids, alkalis, or abrasive matter.

Special grease may be required for ambient temperatures outside the limits of 32° to 140° F.

When the bearings are equipped with grease gun fittings the procedure is as follows:

a. Remove the pressure relief plug so that grease can flow out of the bearing.

b. Clean old grease out of pressure relief hole with a clean wire or screw driver.

c. With the motor running add grease, with a hand operated grease gun, until clean grease is discharged from the pressure relief hole. A hand operated gun should be used, in preference to an air or pedal operated gun, because it will not feed grease faster than it can be used or faster than it can pass out of the relief hole. Continuing to force grease in until new grease is discharged insures purging out the old grease.

d. Allow the motor to run long enough to expel any excess grease. Then replace the pressure relief plug.

When motors are not equipped with fittings for pressure greasing it may be necessary to disassemble the motors, wash out the bearing with gasoline, kerosene, or carbon-tetrachloride, wash out the last traces of solvent with oil, and then pack the bearing with grease. In such a case the bearing housing should only be partially (one-third to one-half) filled with grease to avoid overheating of the bearing and possible discharge of excess grease into the motor.

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Little Material Needed To Keep Small Firms Operating, Odlum Tells Senate

WASHINGTON, D. C.—If less than one-half of 1% of the critical material stocks, not even including aluminum, available in this country today were provided for small plants, 90% of those small plants which face shutdowns in the next two months could operate for at least six more months, Floyd Odlum, director of the Contract Distribution Division of OPM, told a Senate committee examining plans to help small business.

The "death rate" in small business will be tremendous in the next 60 days unless something is done, asserted Mr. Odlum. "After six months," he said, "we won't have to worry about the problem because if the plants can be kept operating for that length of time they will continue to run because we'll need them either for the production of armaments or for the manufacture of essential civilian supplies."

Members of the Senate committee announced that they will propose legislation to broaden the contract distribution division's powers to insist upon sub-contracting provisions in prime contracts, to demand minimum quantities of materials for small plants, and to certify to appropriate Federal agencies the eligibility of a company for financial aid, either to retool for war orders or merely to keep their organizations intact if the plant cannot be adapted to armament production.

Delay of a month on such legislation, however, was urged by Mr. Odlum, who said he wanted to try out new agreements he has made with armament procurement agencies to help the small business man. At the present time, he pointed out, he has representatives sitting as advisors to Army and Navy buyers, both in Washington and in district offices.

Mr. Odlum also expects that OPM will shortly try to make available to peacetime industries certain amounts of material.

Belief that the United States is allocating much more critical material to Latin America than would be needed to keep small businesses in this country operating was also expressed by Mr. Odlum before the committee.

"Understand, I'm not criticizing the allocation," he said. "I merely bring up the point to show that if we have the will to allocate for small business needs, it can be done."

Included in Mr. Odlum's testimony were statistics on the amount of subcontracting that has been done to date. He estimated that at least 25% of plane production and 40% of tank production has been sub-contracted.

2 Copper Producers Plan 7-Day Week

NEW YORK CITY — Production schedules calling for seven-day, three-shift operation will be instituted shortly by two large domestic producers of copper, Anaconda Copper Mining Co. and Phelps Dodge Corp.

Such action had been urged by William S. Knudsen, director general of OPM, and the War Production Committee of the International Union of Mine, Mill, and Smelter Workers (CIO). Kennecott Copper Corp., the other leading producer, has been on a seven-day week for more than a year.

It is said that some mining companies would have operated on this basis some time ago, but that unions had been opposed to working more than 40 hours a week, even though they would receive time and a half for overtime. The Japanese attack on United States, however, has "rallied" the miners to the cause, especially in the West.

Price of copper is still an important question, particularly with the smaller producers. Large producers, it is thought, will be able to pay the required time and a half to miners on low cost mines and still profitably produce 12-cent copper. Other high-cost producers, it is feared, may not be able to increase their work week until arrangements are made to cover the additional expense involved.

Both the Anaconda and Phelps Dodge had been operating on a six-day week, but rotated the miners to maintain a 40-hour limit. Anaconda is expected to increase its monthly production by 2,000 to 3,000 tons on the new basis, while Phelps Dodge will add another 1,000 tons.

Phelps Dodge is also expected to increase domestic copper production by 75,000 tons annually when it starts the new open pit mine on the Morenci property, which has been under development for the past five years. The company is now negotiating with the Defense Contract Corp. for assistance in further development of this property which would add another 60,000 tons annually, starting in 1943.

Gov't Takes Charge of All Tin Supplies

WASHINGTON, D. C.—To conserve existing supplies of tin, chief source of which is Malaya and the Netherlands Indies in the Pacific war zone, the Federal government has taken complete charge of all supplies of tin in the United States and all tin afloat.

Under General Preference Order M-43 issued by Donald M. Nelson, director of priorities, all supplies of tin will be allocated specifically by Mr. Nelson, who will also determine how tin is to be used. Future imports of tin must be sold to the government's Metals Reserve Co. or other agencies.

Only exception to the order is that a distributor may deliver to his regular customers less than 5-ton lots of tin, subject to Priorities Regulation No. 1.

Tin, which is used largely in the canning of food, is held in the United States in large enough quantities to meet normal demands for a year, OPM states, but careful conservation would stretch this supply through "any possible emergency period." A conservation order, limiting the uses of tin and the uses of tin-lined cans, will be issued shortly, it was announced.

Philco Given 3rd Fuse Order

PHILADELPHIA—A third order for M-48 point-detonating fuses, amounting to $1,652,346, has just been received from the government by Philco Corp. After working on an educational order for 5,000 fuses early in 1940, Philco received two more fuse orders, prior to the latest one, which totaled $3,630,525.

The first order is nearly completed. Philco is subcontracting with nine other manufacturers for production of 13 of the 40 separate parts which comprise the fuse.

No Pay For Employes In Blackouts, U. S. Rules

WASHINGTON, D. C.—Time spent by employes on the premises of an employer covered by the Wage and Hour Law during black-outs or air-raid alarms where no work is done need not be compensated for as "hours worked," Acting Administrator Baird Snyder, Wage and Hour Division, U. S. Department of Labor, has ruled.

Several inquiries on this point had been received by Mr. Snyder from West Coast factories.

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Commercial Excise Tax Interpreted

(Concluded from Page 1, Column 2)

taxable? If so, would the tax apply on rewinding the same motor?

Answer: In general, the Bureau takes the position that the production of articles from scrap, salvage, junk, or old material and raw or new material involves a manufacturing process within the meaning of the Internal Revenue Code, and that sales of the resultant articles are properly subject to the taxes imposed thereunder. In connection therewith it is held that where a number of old refrigerators, refrigeration components, etc., are dismantled, the serviceable parts thereof placed in one bin, the unserviceable parts in another, and a number of articles assembled with or without the addition of new parts, which articles are then placed in stock for future sale or exchange, sales of such articles by the producer are subject to tax under the provisions of section 3405 of the Internal Revenue Code. This view was sustained by the courts in the cases of Clawson & Bals, Inc. v. Harrison, Collector, 108 Fed. (2d) 991, certiorari denied; Armature Exchange, Inc. v. United States, 116 Fed. (2d) 969, certiorari denied; and others.

No liability to tax is incurred in any case where only minor worn-out or broken parts are replaced in a refrigerator, refrigeration component, etc., or where such refrigeration components are removed from a refrigerator, restored to usefulness, and replaced in that same refrigerator.

OPM Will Control All Production

(Concluded from Page 1, Column 1)

Section 944.14 of Priorities Regulation No. 1 has been revised to provide a stricter limitation of inventories. Whereas producers were previously forbidden to increase their inventories beyond the amount necessary to meet required deliveries of their products, they are now forbidden to accept delivery of materials for inventory in excess of a practicable working minimum.

This means that all inventories of any materials whatever must be reduced to a practicable working minimum, strictly construed, before they can be replenished. The prohibition applies to suppliers of materials for inventory as well as to producers who maintain inventories, and it covers non-defense as well as defense producers. An exception is made for imported materials.

Another amendment will help to prevent receipt of a new, high-rated order from interfering with fulfillment of the delivery date on a previously accepted lower-rated order. Unless the new order bears an AA rating or is accompanied by specific direction from the Director of Priorities, it will not have to be accepted if its acceptance would necessitate preempting material which has already been completed to fill a previously accepted defense order which bears a lower rating, or if it would preempt material which is within 15 days of completion.

A summary of the important changes, follows:

944.1a All defense orders, as defined, are assigned an A-10 rating The regulation as previously written required the acceptance of defense orders and preferred treatment for such orders, but did not specifically assign them a grade.

944.2 This paragraph has been changed to require acceptance of B rated orders as well as defense orders. Since the assignment of a B rating is one form of allocation of scarce material, it is essential that we require the acceptance of such orders, in preference to unrated orders if the allocation is to be effective.

944.4 It is provided that any preference rating (including B ratings) may be assigned to any order before the contract or purchase order is placed.

944.7 Paragraph (b) is amended so that where preference ratings and delivery dates are the same the sequence of deliveries is to be determined by the dates of receipt of the preference rating. At the present time such cases of conflict are to be referred to the Division of Priorities.

944.8 The amendment requires that each order bear a specific delivery date. This is done in order to terminate the practice which now exists, particularly in the PD-3 field, (military purchases) of specifying "immediately" as the delivery date.

'Emergency' Repair Order Drafted

(Concluded from Page 1, Column 5)

supplies, tools, equipment, and the services of special skills required for emergency service by refrigerating machinery and equipment.

(This reference to "special skills" which would seem to relate to labor and possibly management is the first such reference noted in any proposed priority order, and leads to speculation as to whether there is a broad plan being involved to give priority to the labor or special skills in such orders as well as to materials.)

The proposed plan says that a purchase order rated under the "emergency service order" will be regarded as having a rating sufficiently high to obtain the material or part, if it is in the stock of the supplier or manufacturer.

When the service company or service man wants to apply the order, if it is passed, he would first have to execute an "acceptance" of the provisions of the order on a special form, file it with the OPM, whereupon he would get a serially numbered certificate which shall be exhibited as and when required by suppliers.

He then would place a special endorsement on all purchase orders or contracts for service work, which would say in effect that "the items are required for emergency service, rating such-and-such under Preference Rating Order P-so-and-so under which we are authorized to operate by certificate No. —."

Wood Cabinets Planned By Heinz & Munschauer

(Concluded from Page 1, Column 5)

with wood cabinets, enameled on the outside and probably lined with porcelain on steel.

The company has reduced its line of household refrigerators from eight to two, Mr. Guyton said, but is now confining production to a single model—a 7-foot unit distributed largely through department stores. In addition to the private brand lines being made for regular customers, the company is continuing to market this model under the "Niagara" and "Dayton" names.

Number of gadgets also has been greatly reduced, Mr. Guyton added. Most of the covered dishes have been eliminated, and aluminum ice cube trays have been replaced by steel.

Normal production of about 7,000 has been cut to 1,800 units.

Preference Extension Simplified By OPM

(Concluded from Page 1, Column 5)

bureau, the number of the prime contract, the serial number of the certificate being extended, and will type on the purchase order the wording of Paragraph No. 3 of the PD-3 Form, which reads as follows:

"I hereby certify (a) that the material specified in this Certificate is essential for completion of the contract(s) cited herein, (b) that the specified quantities are not greater than required for said contract(s), and (c) that the specified **Delivery Date(s)** in the instalment Delivery Schedule on the face of this Certificate (or appended hereto) are not earlier than actually necessary for completion on time of said contract(s)."

This endorsement on the purchase order must be signed by the manufacturer, but need not be countersigned by a government official where the amount is less than $500 and the material is to be physically incorporated, as above described.

Copies of purchase orders so certified must be distributed by the manufacturer as follows: one to the supplier of the material in question; one to the supply arm or bureau of the Army or Navy initiating the prime contract; and one to the Director of Priorities in Washington, D. C.

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